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32144/84 564110 E21C 27/24, 19/04
53180/79 529845 E21D 19/04, 20/00, E21C 35/04

(57) Claim

1. A tunnelling machine including: a mobile base movable horizontally and longitudinally towards a face to be cut away; a turntable on the base defining an upright pivot axis and having a main support pivotable about the axis on the base; an arm having an inner end pivotable about a horizontal axis on the main support and having an outer end; a cutter on the outer end of the arm; a conveyor having an intake on the ground between the base and the cutter and extending back away from the face; means including actuators connected between the cutter, arm, support, conveyor, and base for moving the cutter over the face to cut rock therefrom and for conveying the cut rock back away from the face; and a drilling apparatus carried on the arm and engageable with the ceiling immediately adjacent the face, the cutter being

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engageable with the floor to support the arm thereon while the drilling apparatus is boring in the ceiling.

7. A tunnelling machine including: a mobile base movable horizontally and longitudinally towards a face to be cut away; a turntable on the base defining an upright pivot axis and having a main support pivotable about the axis on the base; an arm having an inner end pivotable about a horizontal axis on the main support and having an outer end; a cutter on the outer end of the arm; a conveyor having an intake on the ground between the base and the cutter and extending back away from the face; means including actuators connected between the cutter, arm, support, conveyor, and base for moving the cutter over the face to cut rock therefrom and for conveying the cut rock back away from the face; and a drilling apparatus including means for drilling a hole along a bore axis and means for setting a rockbolt in the hole thus drilled is pivotal on the arm between a use position projecting upwardly therefrom and engageable with the ceiling and a park position lying therealong and out of the way, the cutter being engageable with the floor to support the arm thereon while the drilling apparatus is boring in the ceiling.

The claims defining the invention are as follows:

1. A tunnelling machine including: a mobile base movable horizontally and longitudinally towards a face to be cut away; a turntable on the base defining an upright pivot axis and having a main support pivotable about the axis on the base; an arm having an inner end pivotable about a horizontal axis on the main support and having an outer end; a cutter on the outer end of the arm; a conveyor having an intake on the ground between the base and the cutter and extending back away from the face; means including actuators connected between the cutter, arm, support, conveyor, and base for moving the cutter over the face to cut rock therefrom and for conveying the cut rock back away from the face; and a drilling apparatus carried on the arm and engageable with the ceiling immediately adjacent the face, the cutter being engageable with the floor to support the arm thereon while the drilling apparatus is boring in the ceiling.

2. The tunnelling machine as claimed in Claim 1, wherein the drilling apparatus includes means for drilling a hole along a bore axis and means for setting a rockbolt in the hole thus drilled.

3. The tunnelling machine as claimed in Claim 1 or Claim 2, wherein the drilling apparatus is elongated and is displaceable on the arm between a use position extending upward therefrom and a park position extending



out of the way along the arm.

4. The tunnelling machine as claimed in any one of Claims 1 to 3, wherein the arm is U-shaped toward the face and has two parallel and transversely spaced sides each having one such outer end, the cutter transversely bridging the outer ends, each side carrying one such drilling apparatus.

5. The tunnelling machine as claimed in Claim 4, further including a transverse beam interconnecting and carrying the two drilling apparatuses and pivotal between the use and park positions.

6. The tunnelling machine as claimed in any one of the preceding Claims, wherein the drilling apparatus has an upper end engageable with the ceiling.

7. A tunnelling machine including: a mobile base movable horizontally and longitudinally towards a face to be cut away; a turntable on the base defining an upright pivot axis and having a main support pivotable about the axis on the base; an arm having an inner end pivotable about a horizontal axis on the main support and having an outer end; a cutter on the outer end of the arm; a conveyor having an intake on the ground between the base and the cutter and extending back away from the face; means including actuators connected between the cutter, arm, support, conveyor, and base for moving the cutter over the face to cut rock therefrom and for conveying the cut rock back away from the face, and a drilling

apparatus including means for drilling a hole along a bore axis and means for setting a rockbolt in the hole thus drilled is pivotal on the arm between a use position projecting upwardly therefrom and engageable with the ceiling and a park position lying therealong and out of the way, the cutter being engageable with the floor to support the arm thereon while the drilling apparatus is boring in the ceiling.

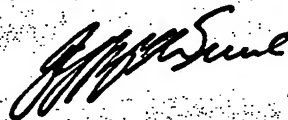
8. A tunnelling machine, substantially as described herein with reference to the accompanying drawings.

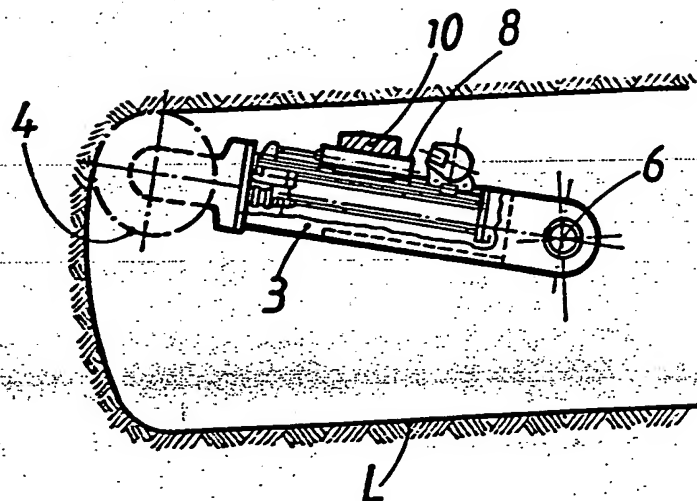
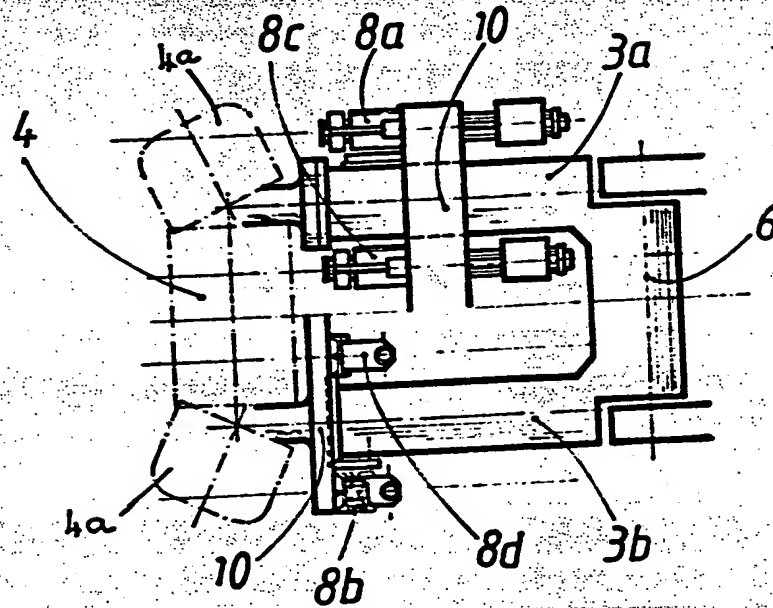
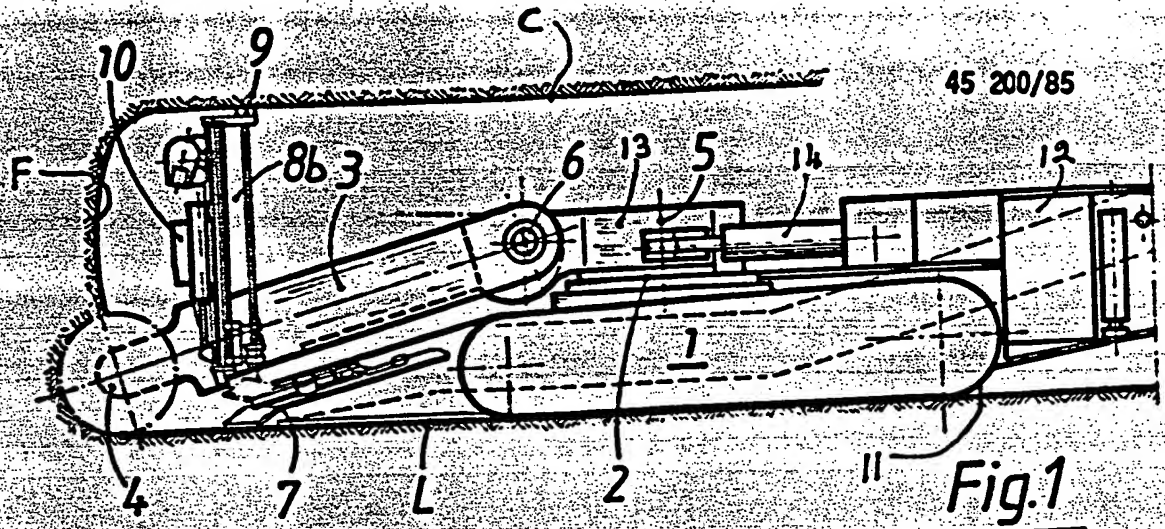
D A T E D this 10th day of February, 1988.

FRIEDRICH WILHELM PAURAT
and ROLAND PAURAT

By their Patent Attorneys:

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Fig.4

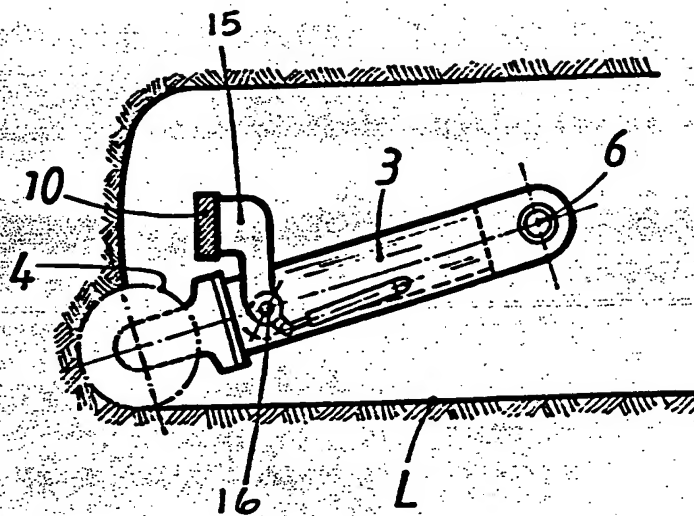
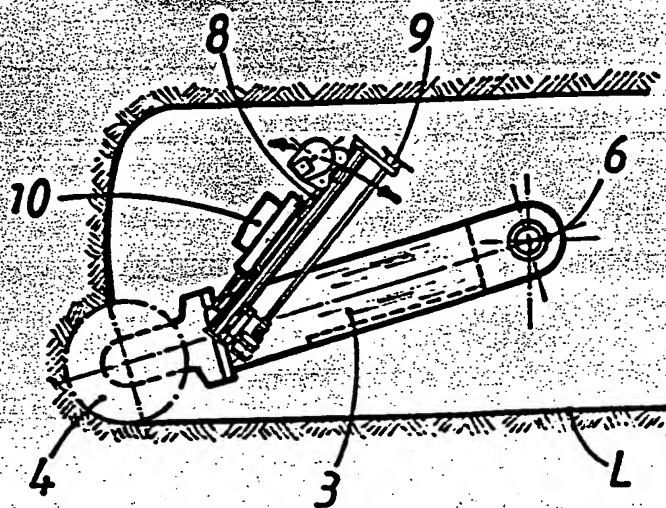


Fig.5